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ABSTRACT

This study examined the effects of age, sex, and ethnic group in selected motor tasks of primary grade children. The Kirk Motor Performance Test was developed to assess running, throwing/catching, and jumping abilities and was used to assess the motor performance of children ages 5 to 9. Results of the testing are presented in tabular form. (JD)

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MOTOR PERFORMANCE ASSESSMENT OF PRIMARY GRADE CHILDREN

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Major Descriptions: Primary Grade Motor Performance
Influence of age, sex, and ethnic group on motor performance of young children
Relationship of motor and academic performance

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MOTOR PERFORMANCE ASSESSMENT

OF

PRIMARY GRADE CHILDREN

The rate of learning and the final level achieved by an individual on specific motor skills is limited by basic abilities. It is generally agreed that after the fifth or sixth year, on the average, no new basic skills appear in the child's motor repetoire. However, the quality of performance continues to improve through refinements in movement patterns. Studies regarding the motor performance of primary grade children with respect to age, sex, and ethnic group are needed.

This study examined the effects of age, sex, and ethnic group in selected motor tasks of children ages 5 to 9 years old. The Kirk Motor Performance Test was developed to assess running, throwing/catching, and jumping abilities. The pretest on 177 elementary children between 5 and 8 years of age yielded the following reliability coefficients: 25 yard dash ($r = .96$); wall pass ($r = .86$), and standing broad jump ($r = .76$).

The KMPT was used to assess the motor performance of 823 children ages 5 to 9 in the district's three magnet school Physical Development Academies. All students in grades K-3 who were not excused for medical reasons were administered the test.

Frequency distributions were generated by age/sex and by age/ethnic group to provide norms for the motor performance of HISD primary grade children. Mean scores per test item by age/sex and by age/ethnic group were also computed. Inadequate sample sizes of Mexican American children resulted in the exclusion of those children from the age/ethnic group analysis.

Differences in average motor performance between the sexes during primary grades is generally associated with slight differences in body size. Boys are

of a greater height than girls on the average. Between the ages of 5 and 11 years, the proportional limb length of the sexes is approximately the same. Thus, the actual limb length of boys is slightly greater than for girls giving the former a mechanical advantage in most physical skills performance. The results of the KMPT on all three test items supported the existing research evidence.

The available research regarding the motor performance of black and white children indicates generally higher performance levels among black children as compared to white children, both males and females, during elementary school. The results of the KMPT did not support the research evidence. On each test item at each age level, the white children performed as well as or slightly better than black children.

The results of the KMPT are to be correlated with the results of the Pre-reading Composite of the Metropolitan Readiness Test in order to investigate the influence of all these factors upon the academic, as well as the motor performance, levels of males and females ages 5-9 years old.

The implications for the relationship between motor performance and academic readiness are varied. The emphasis of motor maturation has been on gross motor activities. Perhaps primary grade children, especially minority children, will need fine motor skill training to compliment their academic performance.

KIRK MOTOR PERFORMANCE TEST

Purpose: This study examined the effects of age, sex, and race in selected motor tasks. Specifically, the purpose of this study is to determine the influence of these factors upon the academic and motor performance levels of males and females, ages 5 to 9 years old.

Selection of Subjects: An alphabetical listing of males and females in each of the selected grades (K-3), was obtained. From this list, all students who were not excused for medical reasons were administered the test. The total males and females tested was 823.

Motor Task: The subjects were tested on their running, throwing/catching, and jumping abilities. Age, sex, and race were included as variables.

Projected Use of Data:

1. An alphabetical list of subjects who have scored stanine 7, 8, or 9, on each of the three motor task items of the Kirk Motor Performance Test has been obtained.

2. An alphabetical list of subjects who have scored stanine 1, 2, or 3, on each of the three motor task items of the Kirk Motor Performance Test has been obtained.

3. An alphabetical list of subjects who have scored stanine 1, 2, or 3, on the Pre-Reading Composite of the Metropolitan Readiness Test has been obtained.

4. An alphabetical list of subjects who have scored stanine 7, 8, or 9, on the Pre-Reading Composite of the Metropolitan Readiness Test has been obtained.

5. From the above data, a stanine comparison chart between motor performance and Pre-Reading Composite skills has been obtained.

6. From the above data, those subjects who have scored high on the Kirk Motor Performance Test (stanine 7, 8, or 9), and high on the Pre-Reading Composite Skills (stanine 7, 8, or 9) will be administered a fine motor test, specifically the mirror tracing test.

7. From the above data, those subjects who have scored low on the Kirk Motor Performance Test (stanine 1, 2, or 3) and low on Pre-Reading Composite Skills (stanine 1, 2, or 3) will be administered a fine motor test, specifically the mirror tracing test.

8. From the above data, using sex, age, and race, as a variable, one may determine the influence these factors have on the academic as well as the motor performance level of males and females ages 5 to 9 years old.

KIRK MOTOR PERFORMANCE TEST

TEST POPULATION

Total Students: 823

AGE	NUMBER	PERCENT
5	144	17%
6	197	24%
7	230	28%
8	221	27%
9	31	04%

SEX	NUMBER	PERCENT
Female	403	49%
Male	423	51%

ETHNIC GROUP	NUMBER	PERCENT
Negro	413	50%
Caucasian	386	47%
Mexican-American	24	3%

MEAN RESULTS OF KIRK MOTOR PERFORMANCE TEST

BASED ON AGE/SEX

	MALE 5 YEAR OLDS (N=79)	FEMALE 5 YEAR OLDS (N=62)
JUMP	38.897	34.377
BALL	4.861	4.435
RUN	6.065	6.523

	MALE 6 YEAR OLDS (N=104)	FEMALE 6 YEAR OLDS (N=93)
JUMP	43.419	38.903
BALL	6.035	6.032
RUN	5.729	6.108

	MALE 7 YEAR OLDS (N=101)	FEMALE 7 YEAR OLDS (N=130)
JUMP	46.871	43.277
BALL	8.380	7.254
RUN	5.740	5.965

	MALE 8 YEAR OLDS (N=115)	FEMALE 8 YEAR OLDS (N=106)
JUMP	51.693	46.896
BALL	8.183	6.840
RUN	8.612	9.224

	MALE 9 YEAR OLDS (N=24)	FEMALE 9 YEAR OLDS (N=9)
JUMP	54.875	52.778
BALL	8.167	7.556
RUN	8.871	9.067

MEAN RESULTS OF KIRK MOTOR PERFORMANCE TEST

BASED ON AGE/ETHNIC GROUP

	WHITE 5 YEAR OLDS (N=80)	BLACK 5 YEAR OLDS (N=56)
JUMP	37.025	36.643
BALL	4.476	4.964
RUN	6.021	6.668

	WHITE 6 YEAR OLDS (N=94)	BLACK 6 YEAR OLDS (N=111)
JUMP	40.851	41.225
BALL	6.432	6.243
RUN	5.922	5.904

	WHITE 7 YEAR OLDS (N=109)	BLACK 7 YEAR OLDS (N=115)
JUMP	45.468	44.304
BALL	7.890	7.614
RUN	5.838	5.870

	WHITE 8 YEAR OLDS (N=102)	BLACK 8 YEAR OLDS (N=119)
JUMP	49.206	49.605
BALL	7.500	7.6
RUN	8.825	8.947

	WHITE 9 YEAR OLDS (N=21)	BLACK 9 YEAR OLDS (N=12)
JUMP	52.19	58.000
BALL	7.57	8.75
RUN	8.886	8.992

STANINES 7, 8, 9, FOR METROPOLITAN READINESS TEST

COMPARED TO STANINES ON KMPT

AGE 6

BROAD JUMP		BALL OFF THE WALL		DASH	
1	X	1		1	
2		2	XX	2	
3	XX	3	XX	3	
4	XXXX	4		4	XX
5	XXXX	5	XXXXX X	5	XXXXX
6	XXX	6	XXXX	6	XXXXX X
7	XX	7	XX	7	XXX
8		8		8	
9		9		9	

AGE 7

BROAD JUMP		BALL OFF THE WALL		DASH	
1		1		1	
2		2		2	
3		3		3	
4		4	X	4	
5	XXXXX	5	X	5	
6	XXXXX XX	6	XXXX	6	XX
7	XXXX	7	XXX	7	XXXXX
8	XXXX	8	XXXXX	8	XXXXX XXXXX
9	X	9	XXXXX XX	9	XXXX